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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,466	09/15/2006	Keiji Ono	Q94344	3200
23373 7590 07/29/2009 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037				
EXAMINER				
KOSLOW, CAROL M				
ART UNIT		PAPER NUMBER		
1793				
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07/20/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/575,466

Applicant(s)

ONO ET AL

Examiner

C. Melissa Koslow

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/DE)
- Paper No(s)/Mail Date 4/12/06, 9/15/06, 9/10/07
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

The information disclosure statement filed 12 April 2006 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

The Kunimoto article cited in the information disclosure statement filed 15 September 2006 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

The Japanese language patent documents cited in the information disclosure statements of 15 September 2006 and 10 September 2007 have been considered with respect to the supplied English abstracts.

Claim 8 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim, or amend the claim to place the claim in proper dependent form, or rewrite the claim in independent form.

Claim 8 is directed to the intended use of the phosphor of claim 1. The intended use of a phosphor does not further limit the phosphor itself. Thus claim 8 does not further limit claim 1.

It is noted that if claim 8 is rewritten as an independent claim directed to a device, an election by original presentation may be applicable.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(f) he did not himself invent the subject matter sought to be patented.

Claims 1-6, 8 and 9 are rejected under 35 U.S.C. 102(f) because the applicant did not invent the claimed subject matter.

U.S. patent 7,239,085 claims a plasma display panel containing a blue phosphor composition of 10-90 wt% of an aluminate phosphor having the formula $\text{BaMgAl}_{10}\text{O}_{17}:\text{Eu}^{+2}$ and 90-10wt% of a silicate phosphor having the formula $\text{CaMgSi}_2\text{O}_6:\text{Eu}^{+2}$. The examples teach a paste comprising this blue phosphor composition, a solvent and a binder. While the reference does not teach the amount of europium in both phosphors, it is well known in the art that the amount of europium that substitutes for the calcium in the $\text{CaMgSi}_2\text{O}_6:\text{Eu}^{+2}$ phosphor is 0.1 and that the amount of europium that substitutes for the barium in $\text{BaMgAl}_{10}\text{O}_{17}:\text{Eu}^{+2}$ is 0.05-0.2. This patent shows that applicants were not the inventors of the claimed phosphor and paste.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent application publication 2004/0041220 or 2004/0056990.

Both of these references teach a phosphor comprising a green phosphor having the formula $\text{MQSi}_2\text{O}_7:\text{Eu}$, where M is at least one of Ba, Ca and Sr and Q is at least one of Mg or Zn

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(that is the known meaning of "(Ba,Sr,Ca)", "(Mg,Zn)" and the known meaning of " $Mg_{1-w}Zn_w$ " and " $Ba_{1-x-y}Ca_xSr_y$ ", when x, y and w are not defined) and a blue aluminate phosphor. ('220:para 14; '990:para 9). The blue phosphor can be $BaMgAl_{10}O_{17}:Eu^{+2}$. While the references do not teach the amount of europium that substitutes for the barium in $BaMgAl_{10}O_{17}:Eu^{+2}$ is 0.05-0.2. This amount falls within the ranges of claims 5 and 6. While the references do not teach the relationship between the phosphor particles in the suggested mixture, it is known in the art that the phosphor particles in the disclosed light emitting device should be uniform so that the light emitted by each particle is uniform and consistent. Thus one of ordinary skill in the art would have found it obvious to use particles which all have essentially the same primary average particle size, which means the average primary particle diameter of the aluminate phosphor is about the same, or 1 times, the average primary particle diameter of the silicate phosphor. The references suggest the size ratio of claim 7. While the references do not teach the composition is for a VUV excited light-emitting device, this is an intended use limitation and does not patentably distinguish the claimed phosphor composition from that taught. A recitation of the intended use of the claimed invention must result in a structural or compositional difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure or composition is capable of performing the intended use, then it meets the claim. In this case a mixture of green and blue phosphor can be used in a rare gas lamp. The references suggest the claimed phosphor.

Claims 1, 5, 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent 7,026,755.

This reference teaches a phosphor composition comprising a silicate phosphor and an aluminate phosphor. U.S. patent 7,026,755 teaches a composition comprising 1-30 wt% of a blue phosphor and 20-89 wt% of a red phosphor having the formula $M_3MgSi_2O_8:Eu,Mn$, where M is Ba or a mixture of Ba and Sr. The ratio of silicate to blue phosphor is 40:60 to 99:1, which overlaps the claimed ratio. Product claims with numerical ranges which overlap prior art ranges were held to have been obvious under 35 USC 103. *In re Wertheim* 191 USPQ 90 (CCPA 1976); *In re Malagari* 182 USPQ 549 (CCPA 1974); *In re Fields* 134 USPQ 242 (CCPA 1962); *In re Nehrenberg* 126 USPQ 383 (CCPA 1960). Also see MPEP 2144.05. The blue phosphor in both applications can be $BaMgAl_{10}O_{17}:Eu^{+2}$. While the reference does not teach the amount of europium that substitutes for the barium in $BaMgAl_{10}O_{17}:Eu^{+2}$ is 0.05-0.2. This amount falls within the ranges of claims 5 and 6. While the reference does not teach the relationship between the phosphor particles in the suggested mixture, it is known in the art that the phosphor particles in the disclosed light emitting device should be uniform so that the light emitted by each particle is uniform and consistent. Thus one of ordinary skill in the art would have found it obvious to use particles which all have essentially the same primary average particle size, which means the average primary particle diameter of the aluminate phosphor is about the same, or 1 times, the average primary particle diameter of the silicate phosphor. The reference suggests the size ratio of claim 7. While the reference does not teach the composition is for a VUV excited light-emitting device, this is an intended use limitation and does not patentably distinguish the claimed phosphor composition from that taught. A recitation of the intended use of the claimed invention must result in a structural or compositional difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior

art structure or composition is capable of performing the intended use, then it meets the claim. In this case a mixture of green and blue phosphor can be used in a rare gas lamp. The reference suggests the claimed phosphor.

U.S. patent application publication 2003/0085853 is cited as of interest since it shows that at the time of invention that it was known that the amount of europium that substitutes for the calcium in the $\text{CaMgSi}_2\text{O}_6:\text{Eu}^{+2}$ phosphor is 0.1. U.S. patent 5,714,835 is cited as of interest since it shows that at the time of invention that it was known that the amount of europium that substitutes for the barium in $\text{BaMgAl}_{10}\text{O}_{17}:\text{Eu}^{+2}$ is 0.05-0.2.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Koslow whose telephone number is (571) 272-1371. The examiner can normally be reached on Monday-Friday from 8:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached at (571) 272-1233.

The fax number for all official communications is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/cmk/
July 17, 2009

/C. Melissa Koslow/
Primary Examiner
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